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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/701,870	11/05/2003	Fritz Sieber	650053.91649	6714

7590

03/23/2005

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EXAMINER

TSAY, MARSHA M

ART UNIT

PAPER NUMBER

1653

DATE MAILED: 03/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/701,870

Applicant(s)

SIEBER ET AL.

Examiner

Marsha M. Tsay

Art Unit

1653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) 31-47 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7-14, 16-23 and 25-30 is/are rejected.
- 7) ☒ Claim(s) 4-6, 15 and 24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

Applicant's election with traverse of Invention I, Claims 1-30 in the response filed February 14, 2004 is acknowledged. The traversal is on the ground(s) that the inventions are directed to highly related subject matter and thus can be examined together without serious burden. This is not found persuasive because the reasons explaining why each invention is patentably distinct are explained in the test of the restriction requirement.

The requirement is still deemed proper and is therefore made FINAL.

Claims 31-47 have been withdrawn from further consideration by the Examiner because these claims are drawn to non-elected inventions. Claims 1-30 are currently under examination.

Priority: The instant application was filed November 5, 2003. This application claims priority to provisional application 60/424,354 filed November 6, 2002. Therefore, the priority date is November 6, 2002.

### ***Claim Objections***

Claim 11 is objected to because of the following informalities: one of the commas after "rejection reaction" should be deleted. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 13-19, 25-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 13-19, 25 are drawn to a composition in an amount sufficient to kill a cell. The claims are indefinite because it is unclear what amount is sufficient to kill a cell.

Claims 26, 30 are drawn to a suitable wavelength. There is no clear definition as to what a suitable wavelength is and the properties or characteristics that make the wavelength suitable.

Claims 27-29 are included in this rejection because they are dependent on claim 26.

### ***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 7-14, 16-20, 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Zhang et al. (2001 Biofactors 15: 27-38). Zhang et al. teach the biological effects of a composition comprising nano elemental selenium that is prepared with bovine serum albumin (BSA). Zhang et al. teach a lyophilised solution containing Nano-Se and BSA, where X-ray photoelectric energy spectra (XPS) indicated Se(0) and transmission electron microscopy (TEM) showed the size of red elemental Se was between 20-60 nm (p. 28, methods 2.1; claims 1-3, 8-10). To study cell viability induced by Nano-Se, Zhang et al. use cultures of human hepatoma HepG2 cells (p. 28, methods 2.2; claims 7, 11-12). In Fig. 5, Zhang et al. show the toxicity of paraquat in causing up

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to 75% cell death at 1 mM by 20 h. Zhang et al. teach Nano-Se protected against paraquat-induced cell death in a dose-dependent manner (p. 32, results 3.2; claim 20). At a concentration of 10 mM, Nano-Se protected against paraquat-induced cell death for some of the cells (p. 32, fig. 5; claims 21-23). Zhang et al. also teach that the first reaction of absorbed Se in vivo is with glutathione (GSH) to form selenogluthathione (p. 32, results 3.4). In Fig. 7, Zhang et al. show the ratio of reacted GSH responded linearly to increasing Nano-Se concentrations (p. 33; claim 25). Zhang et al. teach selenite was 12.3 times more effective than Nano-Se in oxidizing GSH, indicating that intracellular GSH is present in cells that are treated with Nano-Se (claim 20).

In Table 1, Zhang et al. show the results of acute Se toxicity in mice (p. 34). At a dose of 200 mg Se/kg body weight, Nano-Se had a 60% mortality rate (claims 13-14, 16-19).

### ***Claim Objections***

Claims 4-6, 15, 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

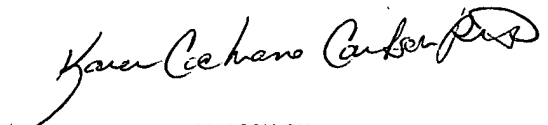
No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marsha M. Tsay whose telephone number is 571-272-2938. The examiner can normally be reached on M-F, 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Jon Weber can be reached on 571-272-0925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

March 11, 2005

  
KAREN COCHRANE CARLSON, PH.D.  
PRIMARY EXAMINER